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What is claimed is:

1. In a gas generating device wherein a fuel material reacts to generate gas, the improvement comprising:

a first chamber having contents including a quantity of a water-supplying compound and a quantity of a fuel precursor, the fuel precursor being water reactive; and

an initiator in discharge communication with at least a portion of the quantity of water-supplying compound content of said first chamber to form water, with at least a portion of the formed water reacting with at least a portion of the quantity of fuel precursor to form a quantity of the fuel material and resulting in opening of said first chamber with a release of at least a portion of the fuel material therefrom.

2. The gas generating device of claim 1 wherein the first chamber contents include at least a portion of the quantity of water-supplying compound and at least a portion of the quantity of the fuel precursor stored in direct contact.

3. The gas generating device of claim 2 wherein, in a static state, the first chamber is closed, the gas generating device additionally comprising:

a second chamber in fluid communication with said first chamber upon the opening of said first chamber, said second chamber containing a quantity of pressurized stored gas including a quantity of oxidant material, with at least a portion

of the fuel material released from said first chamber reacting with at least a portion of the oxidant material to form product gas, said second chamber adapted to open to emit at least a portion of the product gas therefrom.

4. The gas generating device of claim 1 wherein in an at rest condition, the quantity of water-supplying compound is stored segregated from the quantity of the fuel precursor within said first chamber.

5. The gas generating device of claim 4 wherein, in a static state, the first chamber is closed, the gas generating device additionally comprising:

a second chamber in fluid communication with said first chamber upon the opening of said first chamber, said second chamber containing a quantity of pressurized stored gas including a quantity of oxidant material, with at least a portion of the fuel material emitted from said first chamber reacting with at least a portion of the oxidant material to form product gas, said second chamber adapted to open to emit at least a portion of the product gas therefrom.

6. The gas generating device of claim 1 wherein the first chamber is defined at least in part by a perforated housing.

7. The gas generating device of claim 6 additionally comprising a second chamber in fluid communication with said first chamber, said second chamber containing a quantity of pressurized stored gas including a quantity of oxidant material, with at least a portion of the fuel material released from said first chamber reacting with at least a portion of the oxidant material to form product gas, said second chamber adapted to open to emit at least a portion of the product gas therefrom.

8. The gas generating device of claim 7 additionally comprising a liner within the first chamber perforated housing, the liner maintaining the first chamber contents in discharge communication proximity with the initiator device.

9. The gas generating device of claim 1 wherein the fuel precursor is at least one metal element-containing material selected from the group consisting of:

hydrides, carbides, alkoxides and combinations thereof.

10. The gas generating device of claim 1 wherein the fuel precursor comprises a metal alkoxide.

11. The gas generating device of claim 10 wherein the fuel precursor comprises an alkali metal.

12. The gas generating device of claim 10 wherein the fuel precursor comprises an alkaline earth metal.

13. The gas generating device of claim 1 wherein the fuel precursor comprises at least one first component selected from the group of metals and organometallic compounds and at least one second component selected from the group of carbonates and bicarbonates.

14. The gas generating device of claim 1 wherein the fuel precursor comprises potassium t-butyl carbonate.

15. The gas generating device of claim 1 wherein the water-supplying compound comprises ammonium nitrate.

16. The gas generating device of claim 1 wherein the water-supplying compound comprises an inorganic compound with stabilized waters of hydration.

17. The gas generating device of claim 16 wherein the water-supplying compound comprises hydrated calcium oxylate.

18. An apparatus for inflating an inflatable device, said apparatus comprising:

a closed first chamber having contents including a quantity of ammonium nitrate and a quantity of a fuel precursor, the fuel precursor being water reactive;

an initiator in discharge communication with the contents of the first chamber for initiating decomposition of at least a portion of the quantity of ammonium nitrate to form water, with at least a portion of the formed water reacting with at least a portion of the quantity of fuel precursor to form a fuel material, said first chamber adapted to open when a predetermined increase in pressure within the first chamber is realized whereby at least a portion of the fuel material is emitted from said first chamber, and

a second chamber containing a quantity of pressurized stored gas including a quantity of oxidant material, said second chamber in fluid communication with said first chamber upon the opening of said first chamber with at least a portion of the fuel material emitted from said first chamber reacting with at least a portion of the oxidant material to form inflation gas, said second chamber adapted to open when a predetermined increase in pressure within the second chamber is realized whereby at least a portion of the product gas is emitted from the second chamber to inflate the inflatable device.

19. The apparatus of claim 18 wherein the first chamber contents include at least a portion of the quantity of water-supplying compound and at least a portion of the quantity of the fuel precursor stored in direct contact.

20. The apparatus of claim 18 wherein in an at rest condition, the quantity of water-supplying compound is stored segregated from the quantity of the fuel precursor within said first chamber.

21. The apparatus of claim 18 wherein the fuel precursor is at least one metal element-containing material selected from the group consisting of:

hydrides, carbides, alkoxides and combinations thereof.

22. The apparatus of claim 18 wherein the fuel precursor comprises a metal alkoxide.

23. The apparatus of claim 18 wherein the fuel precursor comprises at least one first component selected from the group of metals and organometallic compounds and at least one second component selected from the group of carbonates and bicarbonates.

24. The apparatus of claim 18 wherein the fuel precursor comprises potassium t-butyl carbonate.

25. In a method for inflating an inflatable safety device via an inflator device wherein a fuel material reacts to form gas generation reaction products, the improvement comprising:

heating a mixture containing at least a water-supplying compound and a water-reactive fuel precursor within the inflator device to form the fuel material in situ.

26. The method of claim 25 additionally comprising:

contacting the formed fuel material with a quantity of compressed gas, the compressed gas including a quantity of oxidant,

reacting at least a portion of the formed fuel material with at least a portion of the quantity of oxidant to produce heat,

heating a stored quantity of inert gas with at least a portion of the produced heat to form an increased volume of gas and

passing at least a portion of the increased volume of gas into the inflatable safety device to effect the inflation thereof.

27. The method of claim 25 wherein the fuel precursor is at least one metal element-containing material selected from the group consisting of:

hydrides, carbides, alkoxides and combinations thereof.

28. The method of claim 25 wherein the fuel precursor comprises a metal alkoxide.

29. The method of claim 25 wherein the fuel precursor comprises at least one first component selected from the group of metals and organometallic compounds and at least one second component selected from the group of carbonates and bicarbonates.

30. The method of claim 25 wherein the fuel precursor comprises potassium t-butyl carbonate.

31. The method of claim 25 wherein the water-supplying compound comprises ammonium nitrate.

32. In a vehicular inflatable safety assembly wherein a fuel material reacts to form gas generation reaction products, the improvement comprising:

the vehicular inflatable safety assembly containing a quantity of a water-supplying compound and a quantity of a water-reactive fuel precursor effective upon initiation to form the fuel material in situ.

33. The vehicular inflatable safety assembly of claim 32 wherein the fuel precursor is at least one metal element-containing material selected from the group consisting of:

hydrides, carbides, alkoxides and combinations thereof.

34. The vehicular inflatable safety assembly of claim 32 wherein the fuel precursor comprises a metal alkoxide.

35. The vehicular inflatable safety assembly of claim 32 wherein the fuel precursor comprises potassium t-butyl carbonate.